

REMARKS

The present claims relate to a compound semiconductor epitaxial substrate and a method for manufacturing a compound semiconductor epitaxial substrate.

Status of the claims

Claims 1-2 and 4-5 are pending. Claims 4-5 have been withdrawn from consideration pursuant to a Restriction Requirement.

Claims 1 and 2 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kuroda et al. (U.S. Patent No. 5,831,296) (hereinafter “Kuroda”).

Response to rejection of Claims 1 and 2 under 35 U.S.C. § 102 based on Kuroda

Applicants respectfully request reconsideration and withdrawal of this rejection because Kuroda does not anticipate the presently claimed invention. Specifically, Applicants respectfully submit that Kuroda does not disclose the presently recited GaAs layers, that the GaAs layers are 4 nm thick or more, or the presently recited strain channel layer.

The present claims relate to a compound semiconductor epitaxial substrate for use in a strain channel high electron mobility field effect transistor. The compound semiconductor epitaxial substrate comprises an InGaAs layer as a strain channel layer and an AlGaAs layer as an electron supplying layer. The AlGaAs layer contains n-type impurities and the InGaAs layer has an electron mobility of 8300 cm²/V·s or more at room temperature. In addition, the present claims also recite GaAs layers having a thickness of 4 nm or more and each are laminated respectively in contact with a top surface and a bottom surface of the strain channel layer.

Applicants respectfully disagree with the position set forth in the Office Action, specifically the position that layers **3** and **21** in Kuroda correspond to the presently recited GaAs layers having a thickness of 4 nm or more.

As an initial matter, layer **3** in Kuroda is a Ga_{1-x}Al_xAs layer. Accordingly, Kuroda does not teach the presently recited GaAs layers having a thickness of 4 nm or more laminated in contact with a top surface and a bottom surface of the strain channel layer.

In addition, Applicants respectfully note that Kuroda does not teach or suggest that the GaAs layers therein are 4 nm or more. The passage cited in the Office Action does not relate to the thickness of GaAs layers which are laminated respectively in contact with a top surface and a bottom surface of the strain channel layer. Accordingly, Applicants respectfully submit that Kuroda does not teach or suggest the presently recited thickness of the GaAs layers.

Finally, Applicants respectfully submit that Kuroda neither teaches nor suggests that the GaAs layers are present on the surface of the strain channel layer of the present claims, which is made from InGaAs.

Accordingly, Applicants respectfully submit that Kuroda does not anticipate the presently claimed invention because it does not disclose the presently recited GaAs layers laminated respectively in contact with a top surface and a bottom surface of the strain channel layer. Nor does Kuroda teach that the GaAs layers may be 4 nm thick.

Applicants therefore respectfully request the reconsideration and withdrawal of this rejection.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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